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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Woodcock Washburn Kurtz
Mackiewicz & Norris LLP
46th Floor
One Liberty Place
Philadelphia, PA 19103

EXAMINER

VAN DOREN, BETH

ART UNIT PAPER NUMBER

3623

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,308

Applicant(s)

PHILLIPS, ALAN PAUL
ROLLESTON

Examiner

Beth Van Doren

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/25/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a Final office action in response to communications received 07/25/05. Claims 1-17 have been cancelled. Claims 18-33 have been added. Claims 18-33 are pending in this application.

Response to Amendment

2. Applicant's cancellation of claims 12-17 is sufficient to overcome claim objections set forth in the previous office action.
3. Applicant's cancellation of claims 1-17 is sufficient to overcome 35 USC § 112, second paragraph, rejections set forth in the previous office action.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "A method for performing a plurality of candidate action and monitoring the responses so as to choose the next candidate action to present".

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18-33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 18 recites a method for controlling a system to optimize an objective function, the method comprising the steps of a) monitoring response performance, b) storing a representation

of said monitored response performance, c) choosing which of the plurality of candidate actions is next performed so as to optimize said objective function, d) repeating steps a) to c). This claim is therefore an infinite loop, continually iterating with no end or any specific result. Therefore, it is unclear as to what the inventor regards as his invention as the claim merely proceeds indefinitely, with no defined stopping point and no real outcome. Clarification is required.

7. Claims 19-33 depend on claim 18 and therefore contain the same deficiencies.

Response to Arguments

8. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Applicant has summarized what he believes is his invention and what he believes the prior art discloses. However, Applicant does not specifically reference the language of the claims and how this language differentiates from the prior art.

It is further noted that the features upon which applicant relies (i.e., real-time learning device providing continuous convergence towards a perfect decision system, ongoing learning efficiency, costs and losses) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims #-# are rejected under 35 U.S.C. 102(e) as being anticipated by Aihara et al. (U.S. 2003/0065603).

10. As per claim 18, Aihara et al. teaches a method of controlling a system to optimize an objective function thereof, the system being capable of performing a plurality of candidate actions and being capable of monitoring response performances of a performance of a respective candidate action, the method comprising the steps of:

a) monitoring response performance of a respective candidate action that is chosen to be performed (See paragraphs 0003, 0008, 0013, 0038. 0040, and 0056, wherein response performance is monitored);

b) storing, according to candidate proposition, a representation of said monitored response performance (See paragraphs 0003, 0008, 0013, 0038. 0040, and 0056, wherein the system stores response data associated with actual use of advertising options by time and placement);

c) choosing which of the plurality of candidate actions is next performed so as to optimize said objective function by assessing, using the probability distribution of the response performance of all of said plurality of candidate actions, which candidate action is likely to result in the lowest expected growth in regret after the chosen candidate action is performed (See paragraphs 0013, 0019, 0040, 0046, 0099, 0101, 0112, wherein the unexpected loss and/or gain is assessed for the advertising options based on a probability distribution of the performance of

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each option. See paragraphs 0013, 0019, 0046, 0099, 0101, 0112, 0118, 0261-0264, wherein assessment determines the volatility of an option by considering the AR and standard deviation and chooses an option that minimizes the size of the risk);

d) repeating steps a) to c) (See figures 1, 6, 7, which reveals an ongoing process);

where regret is a term used for the shortfall in response performance between always performing the true best candidate action and actually performing the candidate actions chosen to be performed (See paragraphs 0118, 0247-0250, 0261-0264, and 0276, wherein the shortfall in response is looked at from the perspective of always presenting the true best action versus the actual occurrence of the option presented (i.e. the risk, etc.)).

11. As per claim 19, Aihara et al. discloses wherein assessing which candidate action is likely to result in the lowest expected regret on the basis of a true best candidate action which has the mean of said probability distribution (See paragraphs 0013, 0019, 0046, 0099, 0101, 0112, 0118, 0261-0264, wherein assessment determines volatility of an option by considering the AR and standard deviation and chooses an option with the mean of risk).

12. As per claim 20, Aihara et al. teaches evaluating cost of losses associated with presenting a lower performing candidate action and the gain or benefit associated with knowing the true position of the current best observed candidate (See paragraphs 0013, 0019, 0046, 0084, 0099, 0101, 0112, 0118, 0222, 0261-0264, wherein assessment determines the volatility of an option by considering the AR and standard deviation and chooses an option that minimizes the size of the risk and cost associated with the advertising option).

13. As per claim 21, Aihara et al. discloses assessing which candidate action is likely to result in the lowest expected growth in regret according an assumption that the current best

observed candidate action is assumed to have zero uncertainty around its mean or expected response performance (See paragraphs 0013, 0019, 0046, 0099, 0101, 0112, 0118, 0261-0264, wherein the volatility/deviation is minimized with zero uncertainty being the ideal situation).

14. As per claim 23, Aihara et al. teaches using a Monte Carlo algorithm to provide understanding of the probability distribution of the response performance of all of the plurality of candidate actions and either chooses the candidate action that contributes most to the expected regret estimate or chooses a candidate action that contributes most to the expected regret, or chooses a candidate action with probability proportional to its contribution to the expected regret estimate (See paragraphs 0230, 0243-0244, and 0276, which discloses using the Monte Carlo simulation for the assessment).

15. As per claim 24, Aihara et al. discloses d) applying a temporal depreciation factor to the stored representations of the response performance in order to depreciate the significance of the representations over time (See figure 2 and paragraphs 0008, 0013, 0118, 0096, 0261-0264, wherein, based on the time of display of the option, a reduction factor is applied. For example, a weather value associated with time is shown in 0247-0250).

16. As per claim 25, Aihara et al. teaches wherein d) includes applying, for each candidate action, a different temporal depreciation factor to the stored representations of the response performance thereof (See figure 2 and paragraphs 0008, 0013, 0118, 0096, 0261-0264, wherein, based on the time of display of the option, a reduction factor is applied. For example, a weather value associated with time is shown in 0247-0250).

17. As per claim 26, Aihara et al. discloses e) forcing the performance of each candidate action a minimum number of times or at a minimum rate (See figures 2 and 7, paragraphs 0042,

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0046, 0096, 0247-0250, 0261-0264, wherein the assessment is based on the presentation of the candidate option).

18. As per claim 28, Aihara et al. teaches having two or more ranks of control arranged in a hierarchy, wherein each rank of control has a respective objective function and is capable of performing a plurality of candidate actions for that rank of control in the hierarchy, wherein the candidate action of a rank of control can represent a lower rank of control in the hierarchy (See paragraphs 0038, 0049, 0076, 0084, 0119, 0121, wherein ranks are associated with evaluation criteria).

19. As per claim 29, Aihara et al. teaches wherein representations of said monitored response performance stored in step b) are shared with said rank of control (See paragraphs 0003, 0008, 0013, 0038, 0040, 0056, 0076, 0084, wherein the system stores response data and ranking information).

20. As per claim 30, Aihara et al. discloses wherein the monitored response performance of a respective candidate action in step a) is stored in step b) in a form to enable sharing of the stored representation of said monitored response performance with another system (See paragraphs 0003, 0008, 0013, 0038, 0040, 0056, 0076, 0084).

21. Claims 31 and 33 are substantially similar to claim 18 and are therefore rejected using the same art and rationale set forth above.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 22, 27, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aihara et al. (U.S. 2003/0065603).

24. As per claim 22, Aihara et al. teaches assessing which candidate action is likely to result the lowest expected regret according to a statistical distribution and the evaluation of parameters as the basis for estimating probabilities of unequal or equal response states between the candidate action with the current expected best response performance and any other candidate action (See at least paragraphs 0099-0101, 0113-0118, 0187, 0224-0230).

However, Aihara et al. does not expressly disclose an assumption of a Student's distribution and evaluation of Student's t parameters.

Student's t-distribution is an old and well-known statistical distribution method in the art of statistics that is used when considering standard deviation with a sample taken from a population of data. Since Aihara et al. teaches considering a standard deviation in a population of observed data when choosing an optimal advertising option, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a Student's t-distribution when considering the standard deviation in order to reduce the risk in an advertisement transaction by considering the appropriate standard deviation. See paragraphs 0005-0008 and 0099.

25. As per claim 27 and 32, Aihara et al. teaches a method for controlling a system to optimize an objective function, the method comprising the steps of a) monitoring response performance, b) storing a representation of said monitored response performance, c) choosing which of the plurality of candidate actions is next performed so as to optimize said objective function, d) repeating steps a) to c), as set forth above in the rejection of claim 18. However,

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Aihara et al. does not expressly disclose that the system has a robot that performs this collection and the steps of the method.

Aihara et al. teaches a method with a plurality of routinely implemented steps. A robot is old and well known as a machine designed to execute one or more tasks repeatedly, with speed and precision. There are as many different types of robots in the art as there are tasks for them to perform. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a robot to perform the claimed steps in order to more efficiently and accurately implement these steps.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Papierniak et al. (U.S. 6,934,687) discloses analyzing electronic commerce and the use of robots in searching the network.

Keane (U.S. 5,737,581) teaches a quality assurance system that analyzes process flow.

Johnson et al. (U.S. 2002/0166236) teaches a learning process in a real-time basis that optimizes a company's performance and profitability.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Van Doren whose telephone number is (571) 272-6737. The examiner can normally be reached on M-F, 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



bvd

October 4, 2005


TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600